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Lessons Outside of the Classroom: Examining the Effectiveness of Service Learning Projects at Achieving Learning Objectives

Kristina Lambright
Binghamton University

ABSTRACT

   This paper investigates how the delivery of course material affects student learning. It explores whether service learning projects are more effective than traditional classroom assignments at achieving different learning objectives. Student evaluations of their group projects and final exam scores from three sections of a MPA research methods course were compared as part of this study. One of the sections participated in a service learning project for their group project; the other two sections wrote mock research proposals for their group project. Based on the results from student evaluations of their group projects, there is some evidence suggesting that service learning projects may be more effective than traditional classroom assignments at helping students master course material and link theory to practice. However, participating in a service learning project did not have a significant impact on student performance on the final exam.

   When designing a course, instructors must grapple not only with what material to cover but also with how to most effectively present this material. This paper investigates how the delivery of course material impacts student learning. It explores whether service learning projects are more effective than traditional classroom assignments at achieving different learning objectives. There is no standard definition of service learning (Eyler, 2000). This paper adopts Barbara Jacoby's widely used definition to guide its analysis: "service learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development" (Jacoby and Associates, 1996, 5). According to Drucker, Stefanovic, and Cunningham (1996), "education limited

to the classroom may not connect theory to practice" (131). Service learning offers students an opportunity to apply lessons they are learning in the classroom to a real-life setting. It is an important pedagogical tool used in undergraduate and graduate classrooms (Fredericksen, 2000; Strage, 2000; Litke, 2002; Gallini and Moley, 2003; Anderson and Harris, 2005; Wells, 2006).

Several scholars have argued that experiential and service learning can provide master of public administration (MPA) students with valuable educational experiences (Holmer and Adams, 1995; Cunningham, 1997; Denhardt, 1997; Campbell and Tatro, 1998; Jelier and Clarke, 1999; Killian, 2004). This pedagogical approach is believed to help MPA students connect theory to practice, improve their self-awareness about their tolerances and prejudices, make community contacts that may be useful in their future professional development, and develop team building skills (Jelier and Clarke, 1999). They also offer potential benefits for MPA programs, including strengthening community networks for other research and service projects, increasing the visibility of the program in the community, and improving the instructors' teaching effectiveness (Jelier and Clark, 1999). Despite the enthusiasm about service learning within the public administration community, there has not been very much empirical research assessing the impact of MPA service learning projects. In particular, little is known about whether service learning projects actually improve learning outcomes for MPA students. Most of the research on the impact of service learning on pedagogical outcomes has focused on undergraduate students. This study seeks to fill the gap in knowledge about the impact of service learning on learning outcomes for graduate students in general and the impact of service learning on learning outcomes for MPA students in particular.

This paper provides a greater understanding of the impact of course delivery on student learning and focuses on the effectiveness of MPA service learning projects at achieving a variety of pedagogical goals compared to traditional classroom assignments. It specifically examines whether service learning projects are more effective than traditional classroom assignments at achieving the following learning objectives: (1) mastering course material, (2) tying course concepts together, and (3) linking theory to practice. This information will be particularly useful for public administration programs as well as other graduate programs that incorporate service learning techniques into their curricula.

This study uses a natural experiment research design and is based on data collected from three sections of a research methods class taught at a large state university. The same instructor taught all three sections, and all three sections covered the same basic course material. The only substantive difference in the course design between the three sections was their group projects. Two of the sections wrote mock research proposals for their group projects. The other section administered a survey and analyzed its results as a service learning project for a local public agency. Student evaluations as well as final exam grades were

analyzed to compare the effectiveness of service learning projects and traditional classroom assignments at achieving different learning objectives.

In order to place this study in context of the service learning literature, past research is reviewed in the next section. Following this, the study's methodology is described, and key findings are highlighted. In conclusion, directions for future research are considered.

Service Learning's Impact on Pedagogical Outcomes

Dicke, Dowden, and Torres (2004) identify four different rationales for service learning projects: community service, moral, political, and instrumental. The community service perspective focuses on how community service performed as part of service learning projects can benefit both students and the community. The moral development perspective views service learning projects as a vehicle for promoting the moral and ethical development of students. Advocates of the political perspective believe service learning should be used to promote a social justice cause. According to the instrumental perspective, service learning projects are viewed as educational tools that help students develop specific academic or work-related competencies. This study focuses on the instrumental rationale for service learning projects and examines whether service learning projects are more effective than traditional classroom assignments at achieving different learning objectives.

Past empirical research on MPA service learning projects has examined the different goals of these projects (Dicke, Dowden, and Torres, 2004), the effectiveness of incorporating reflection into capstone projects (Bushouse and Morrison, 2001), and the effectiveness of service learning at promoting civic engagement (Reinke, 2003). However, little is known about the effectiveness of MPA service learning projects at achieving pedagogical objectives. Although the impact of service learning on pedagogical outcomes for MPA students has not been well explored, several studies on this topic have been conducted in other disciplines such as political science (Markus, Howard, and King, 1993), social work (Anderson and Harris, 2005; Wells, 2006), sociology (Kendrick, 1996), and educational psychology (Simons and Cleary, 2006). This paper examines whether findings on service learning in these other disciplines can also be applied to public administration.

Past empirical research indicates that service learning has a positive or neutral impact on learning outcomes. Scholars have approached this topic from a variety of angles. Several researchers have used self-reports to evaluate the impact of service learning on academic achievement. Most self-reports suggest service learning positively influences academic achievement. As an example, students evaluating service learning courses were more likely to report that the course promoted academic achievement and was academically challenging compared to students evaluating non-service learning courses (Gallini and Moley, 2003). Service learn-

ers are also more likely than non-service learners to report being able to apply course concepts to new situations (Markus, Howard, and King, 1993; Kendrick, 1996). In addition to student self-reports, faculty self-reports have been used to assess the impact of service learning on the achievement of learning outcomes. Hesser (1995) finds that more than four-fifths of the faculty members surveyed reported that the quality of learning in courses with a community service component was better than the quality of learning in classes that did not have a community service component.

Researchers have also assessed the impact of service learning using more direct measures of classroom outcomes. The conclusions of this genre of research have been more mixed than research based on self-reports and indicate service learning has a positive or neutral impact on academic achievement. In a study of an undergraduate political science class, service learners earned significantly higher grades in the course compared to non-service learners (Markus, Howard, and King, 1993). Batchelder and Root (1994) also concluded that service learning had a positive impact on academic achievement. They compared the responses of service learners and non-service learners on pre- and post-semester assessments and found that service learners experienced significant cognitive gains relative to the non-service learners.

In Strage (2000), service learners performed better than non-service learners on the second midterm examination and the final exam but not on the first midterm examination. She concludes that service learners received higher grades on the second midterm examination and the final exam primarily because they performed better than non-service learners did on the essay portion of these examinations. There was not a significant difference in the performance of service and non-service learners on the multiple choice portions of any of the exams. Similarly, Kendrick (1996) found that service learners performed significantly better than non-service learners on the essay portion of course examinations only. In addition, his research indicates that there was no difference in the final course grades of service learners and non-service learners. In another study with mixed results, Fredericksen (2000) examined the impact of participation in a service learning project on both course exams and final grades and found that service learning was associated with higher grades on the second course exam and final course grades, but for males only. Moreover, service learning was not associated with higher grades on the first course exam for either males or females.

There is some evidence suggesting that the extent to which service learning is integrated into a course influences the impact this pedagogical tool has on learning outcomes. Eyler and Giles (1999) interviewed 57 students from six colleges to assess their understanding of a social problem they had studied. Students who took classes in which service learning was well-integrated demonstrated greater understanding and ability to apply knowledge than did students who took courses in which there was no service learning or in which service learning was not

well integrated. According to Eyler and Giles, service learning is well integrated into a class when the service experience is closely connected to course activities and students have frequent opportunities to reflect on the connection between the service experience and course material.

Although past empirical research suggests that service learning has a positive or neutral impact on student achievement of learning objectives, the vast majority of this research has focused on undergraduate students. One notable exception of a study that examines the impact of service learning on learning outcomes for graduate students is Wells (2006). Consistent with other service learning research based on self-reports, Wells found that service learning is associated with positive learning outcomes. According to student evaluations of a service learning project for a research methods class for social work graduate students, 80 percent of the students indicated that service learning activities helped achieve course objectives. However, Wells examined the experience of service learning students only and did not compare the learning outcomes of service learners with the learning outcomes of non-service learners in her study. This study expands the research on service learning's impact on academic achievement in graduate school classrooms. It explores whether the positive impact service learning had on pedagogical outcomes in a graduate social work classroom are also true in a public administration context, using a more rigorous research design.

Methodology

This study uses a natural experiment research design and is based on data collected from three sections of a research methods class taught by the author of this paper. Service learning projects have been effectively incorporated into other research methods classes (Strand, 2000; Potter, Caffrey, and Plante, 2003; Wells, 2006) and can help reduce student anxiety about such courses (Wells, 2006). The research methods course that this study focuses on is an introductory course that is required for all MPA students at a large state university. It specifically teaches students how to design research projects. In addition, the course introduces students to several data collection and analysis techniques and covers both qualitative and quantitative methods. At the end of this course, students are expected be able to (1) design basic research projects, (2) describe selected qualitative data collection and analysis techniques, (3) describe selected quantitative data collection and analysis techniques, and (4) critically analyze research projects conducted by others.

Two of the sections of the research methods class were taught during the fall 2006 semester. There were a total of 25 students in the fall cohort, 14 students in the first section and 11 students in the second section. The other section of the research methods class was taught during the spring 2007 semester. There were 9 students in this section. The same instructor taught all three sections. In addition, all three sections covered the same basic course material, and the same

lecture notes, PowerPoint presentations, books, and homework assignments were used for all three sections. In sum, the only substantive difference in the course design for the three sections was their group projects.

The two sections taught during the fall 2006 semester wrote mock research proposals for their group projects. At the beginning of the semester, each student was assigned to a group of three or four people to work on this proposal. Although each group was allowed to select the specific topic for their research proposal, groups were instructed that their topic had to somehow be related to Robert Merton's work on dysfunctional bureaucracies (Merton, 1940). Groups were allowed to incorporate qualitative and/or quantitative data collection methods into their research design. The final research proposal was expected to contain the following components: a description of the research problem, a literature review, a statement of the proposal's research hypothesis, a description of the data collection methods and sampling strategy, a discussion of the ethical issues associated with the study, a discussion of the potential threats to the study's validity and reliability and strategies for minimizing these threats, and a mock Institutional Review Board (IRB) application. All group members received the same group project grade.

For its group project, the section taught during the spring 2007 semester administered a survey and analyzed its results as a service learning project for a local public agency. At the beginning of the semester, each student was assigned to a group of three people to work on this project. As part of this project, students designed a survey, administered the survey, analyzed the results of the survey, and wrote written reports summarizing the surveys findings. The entire class worked together to administer the survey. The small groups performed the other major tasks for this service learning project separately. Each group designed a survey and completed an IRB application. The instructor then selected the best survey for the class to use for the data collection phase of the project and submitted that group's IRB application for university approval. Similarly, each group wrote a final report analyzing the key findings of the survey. In addition to highlighting key findings, the final report was expected to describe the purpose of the survey, the sampling strategy, the protocol for collecting the data, potential threats to validity and reliability, and strategies the class used to minimize these threats. The instructor again selected the best report to give to the class's community partner for the service learning project. Like the fall cohort, all group members in the spring cohort received the same group project grade.

The service learning project was integrated into the course primarily through class activities and discussion. Many of the class activities, including three written course assignments that students completed in small groups, were related to the service learning project. These activities required students to apply key concepts covered in the course readings and lecture to the service learning project. Considerable class time was also regularly devoted to discussing the service

learning project. In these discussions, students provided status updates on various aspects of the service learning project, shared what they were learning from the service learning project, and talked about any problems they had experienced relating to the service learning project. As a part of some service learning projects, students are required to reflect in writing about the connection between the service experience and course material (Litke, 2000; Bushouse and Morrison, 2001; Reinke, 2003). The research methods class that was the focus of this study is very labor intensive. It covers a significant amount of material in the span of a semester and requires students to complete several assignments outside of class. In an effort to keep the workload outside of class reasonable, students were not asked to complete additional written assignments reflecting on the connection between the service experience and course material.

Most students take the research methods class in their first semester in the MPA program, because this course is one of the two prerequisites for taking all of the other core courses in the MPA curriculum.[1] The only students who do not take the research methods class in their first semester are part-time students. These students have the option of taking the research methods class in their first or second semester. In general, the fall cohort of the MPA program is larger in

Cohort Backgrounds

Age	Fall Cohort (n = 25)	Spring Cohort (n = 9)
20–29 years old	60%	67%
30–39 years old	16%	11%
40–49 years old	20%	22%
50–59 years old	4%	0%
Gender		
Male	44%	33%
Female	56%	67%
Race		
White	52%	56%
African-American	16%	0%
Latino	8%	22%
Asian	0%	22%
International Student	12%	0%
Other	12%	0%
Work Experience		
Pre-service	72%	67%
In-service	28%	33%
Admission Status		
Regular Admission	56%	33%
Conditional Admission	44%	67%

size, which resulted in two sections of the research methods class being offered in the fall 2006 semester. In addition, the fall cohort tends to be stronger academically than the spring cohort, as indicated by the fall cohort's lower percentage of conditionally admitted students. Two-thirds of the spring cohort was conditionally admitted, while less than half of the fall cohort was conditionally admitted. Students are conditionally admitted to the MPA program because of weaknesses in their academic record. The table on the previous page compares the composition of two cohorts in terms of age, gender, race/ethnicity, work experience, and admission status. Other than admission status, the background of the two cohorts was fairly similar.

Effectiveness in higher education has been viewed from a variety of perspectives such as cost-effectiveness (Maxwell and Lopus, 1995), teaching effectiveness (Jiroveck, Ramanathan, and Rosegrant-Alvarez, 1998; Pike, 1998; Marsh and Hattie, 2002), and institutional effectiveness (Kim, 2001; Welsh and Metcalf, 2003). This study focuses on the effectiveness of group projects at achieving learning objectives and defines effective group projects as projects that enable students to master course material, tie course concepts together, and link theory to practice. Course material and concepts in this context refer to research design, qualitative data collection and analysis techniques, and quantitative data collection and analysis techniques.

Both student evaluations of their group projects and final exam scores were analyzed to compare the effectiveness of service learning projects and traditional classroom assignments at achieving different learning objectives. At the end of each semester, all students in the three sections completed a separate evaluation of their group project. This evaluation was completed during class and included both closed- and open-ended questions. In the closed-ended question section, students were asked to compare the effectiveness of the group project and homework assignments at reinforcing course concepts and to evaluate the extent to which the group project helped master course material, tie together course concepts, and link theory to practice. In the open-ended question section, students were asked what they liked best about the group project, what they liked least, and how they felt the group project could be improved. The student evaluations offer an indirect measure of learning outcomes and indicate student perceptions about the impact of the group project on the achievement of learning objectives rather than the project's actual impact.

In addition, the grades on the take-home final exams of the three sections were compared. The two sections from the fall 2007 semester were given identical take-home final exams. The specific questions on the final exam for the spring cohort were different from the fall cohort's exam. But the structure of the questions and the course concepts covered on the spring cohort's exam were the same as the fall cohort's exam. Each final consisted of two essay-style questions. The first question asked students to interpret the multiple regression findings of a recently

published peer-reviewed article from a major public administration journal. The second question asked students to design a research project to answer a question important to contemporary public administration research. For the fall cohort exam, students designed research projects comparing the level of red tape in public and private organizations. For the spring cohort exam, students designed research projects examining how the level of stakeholder agreement on goals for a public-private organization collaboration affects the likelihood that the collaboration is successful.

COMPARISON OF LEARNING OUTCOMES FOR THE TWO COHORTS

   Based on the results from the student evaluations, there is some evidence suggesting that service learning projects may be more effective than traditional classroom assignments at achieving learning objectives. Approximately 56% of students in the spring cohort (5 of 9 students) reported that the service learning project was crucial in helping them master course material. On the other hand, only 24% of students in the fall cohort (6 of 25 students) reported that the mock research proposal project was crucial in helping them master course material.

   Compared to the fall cohort, students in the spring cohort were also more likely to report that their group project was crucial in helping them link theory to practice. Roughly 44% of students in the spring cohort (4 of 9 students) reported that the service learning project was crucial in helping them link theory to practice. In contrast, only 24% of students in the fall cohort (6 of 25 students) reported that the mock research proposal project was crucial in helping them link theory to practice.

   While there were differences in the extent the two cohorts reported the group project helped them master course material and link theory to practice, there was not a notable difference between the cohorts regarding the other learning objective on which this study focused. The percentage of students reporting that the group project was crucial in helping tie course concepts together was similar across the two cohorts. The percentage of students reporting that the group project was more effective than the homework assignments in reinforcing course concepts was also similar across the two cohorts.

   In addition, student performance on the final exam was examined. The spring cohort's average grade on the final exam was a 19.67 out of 25. This was only slightly higher than the fall cohort's average grade on the final exam, which was 18.74 out of 25. The median grade for both cohorts was a 20. The impact of participation in a service learning project on final exam grades was further analyzed using ordinary least squares regression. Participating in a service learning project did not have a significant impact on student performance on the final exam when gender, international student status, work experience, and conditional admission status were controlled for.

CONCLUSION

This paper investigates how the delivery of course material influences student learning and explores whether service learning projects are more effective than traditional classroom assignments at achieving different learning objectives. It specifically examines whether service learning projects are more effective at helping MPA students master course material, tie course concepts together, and link theory to practice. To answer these questions, the learning outcomes for three sections of a research methods class were compared. Based on the results from student evaluations of their group projects, there is some evidence suggesting that service learning projects may be more effective than traditional classroom assignments at helping students master course material and link theory to practice. However, participating in a service learning project did not have a significant impact on student performance on the final exam.

This study provides a greater understanding of how service learning impacts learning outcomes for MPA students. Study strengths include the use of a natural experiment to compare the learning outcomes of service learners with the learning outcomes of non-service learners. The same instructor taught all three sections of the research methods class, and all three sections covered the same basic course material. The only substantive difference in the course design was their group projects. In addition, multiple measures were used to evaluate student learning outcomes.

Although there are important benefits to this study's research design, there are also some limitations. Neither of the measures used in this study to evaluate learning outcomes are ideal. The student evaluations only provide self-reports of learning outcomes. Moreover, it is possible that student satisfaction with the group project may have influenced perceptions of project effectiveness. Student final exam grades are a more direct measure of learning outcomes. However, the course exam still tested students' ability to apply knowledge in an artificial context rather than in a real-life setting. Applying knowledge in a real-life setting is an integral part of service learning projects. Perhaps if students were evaluated in their ability to apply course concepts in a real-life setting, there may have been a greater difference between the two cohorts.

Another limitation of this study is the extent to which the service learning project was integrated into the course. As discussed in the literature review, Eyler and Giles (1999) find a positive association between the extent to which service learning is integrated into a course and learning outcomes. The service learning project in this study was integrated into the course primarily through class activities and discussion. However, service learning students did not reflect in writing about the connection between the service experience and course material. The lack of a formal written reflective component in the service learning class may also help explain why service learners did not perform better on the final exam than non-service learners.

In addition, the teacher of the research methods class and the author of this study are the same person. While this is a study limitation, it can also be viewed as a study strength. By playing this dual role, I was able to ensure that the evaluation instruments used were appropriate given the projects' objectives and that the experiences of the three sections were as comparable as possible, a critical feature of the research design.

Finally, the sample size for this study is small. Of particular concern, only 9 of the 34 study subjects participated in a service learning project. Given the small sample size, generalizations from this study should be made with caution.

Service learning offers MPA students exciting opportunities to apply the skills they are learning in the classroom in a real-life setting while at the same time providing important services to the community. The finding that service learning projects may be more effective than traditional classroom assignments at helping students master course material and link theory to practice is encouraging. However, much more research needs to be done on this pedagogical tool in order to fully assess its value for MPA classrooms.

Future research should investigate whether this study's findings can be replicated in other MPA programs and with larger samples of MPA students. The service learning component in these diverse settings will likely have different learning outcomes than the ones that this study focused on, and instructors will need to adjust, structure, and evaluate their classes accordingly. If possible, measures beyond just MPA student self-reports and final exam grades should be used to evaluate the effectiveness of service learning at achieving different learning objectives. For instance, it would be interesting to compare the ability of service learners and non-service learners to solve administrative problems in a real-life setting. In particular, future research could explore whether there are differences in the ability of service learners and non-service learners to transfer knowledge learned as part of their MPA training to the workplace. Researchers should also compare the learning outcomes of service and non-service learners over time. Do service learners retain more knowledge than non-service learners? In addition to examining the impact of service learning on MPA students from an instrumental perspective, further work is needed to assess the impact of service learning on MPA students from the three other perspectives that Dicke, Dowden, and Torres (2004) highlight: community service, moral, and political. The answers provided by this research will ultimately allow MPA programs to more effectively use service learning and maximize its potential as a pedagogical tool.

NOTE

1. Students are admitted to the MPA program in both the fall and spring semesters. Students in the spring cohort were no more or no less likely to be late admits to the MPA program.

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Kristina T. Lambright is an assistant professor of public administration at Binghamton University's College of Community and Public Affairs. She teaches classes on research methods and evaluation. Her research interests include service learning, alternative forms of service delivery, contracting and privatization, and organization theory. She may be reached at klambrig@binghamton.edu.